

Date: Tuesday, 1/16/2007 11:36:45 AM  
 User: Kim Johnston

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : STEM
<b>Job Number</b> : 30302	
<b>Estimate Number</b> : 10394	
<b>P.O. Number</b> : N/A	<b>Part Number</b> : D29681
<b>This Issue</b> : 1/16/2007 <b>S.O. No.</b> : N/A	<b>Drawing Number</b> : D2968
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : N/A <b>Type</b> : MACHINED PARTS	<b>Drawing Revision</b> : B1
<b>Previous Run</b> : 30274A	<b>Material</b> : N/A
<b>Written By</b> : <u>[Signature]</u>	<b>Due Date</b> : 1/23/2007
<b>Checked &amp; Approved By</b> : <u>[Signature]</u> 07.01.16	<b>Qty:</b> 40 <b>Um:</b> Each
<b>Comment</b> : Est:C 0304.11 Reformat; Incorporated D2968-1/-5 KJ/RF	

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	M4130NR0750	4130 steel rod .750"
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**Comment:** Qty.: 0.4550 f(s)/Unit Total : 18.1986 f(s)  
 Material: AISI 4130 Ø 3/4 " Bar  
 (M4130N-R0.750) Batch: M103090  
 Identify AS D2968-1

mk 07/02/14 40

2.0	HARDINGE	HARDINGE CNC LATHE SMALL
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**Comment:** HARDINGE CNC LATHE SMALL  
 1-Turn Blank as per Folio FA047 and Dwg D2968  
 2-Deburr, no sharp edges

mk 07/02/14 40

3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
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**Comment:** INSPECT PARTS AS THEY COME OFF MACHINE

mk 07/02/14 40

4.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
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**Comment:** HAAS CNC VERTICAL MACHINING #1  
 1- Machine as per Folio FA047 and Dwg D2968  
 2- Deburr

En 07/02/16 40

5.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
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**Comment:** INSPECT PARTS AS THEY COME OFF MACHINE

En 07/02/16 40

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA: ☒ Date: 07/02/22

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Tuesday, 1/16/2007 11:36:45 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: STEM

Job Number: 30302

Part Number: D29681

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC8

SECOND CHECK



Comment: SECOND CHECK

JS 07/02/20 (40)

7.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: WA

PC 7/2/20 (40)

8.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

JS 07/02/22 (40)

Job Completion



U 07-02-22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	<b>30302</b>
<b>Description: Stem</b>		<b>Part Number:</b>	<b>D2968-1</b>
<b>Inspection Dwg: D2968 Rev: B1</b>		<b>Page 1 of 1</b>	

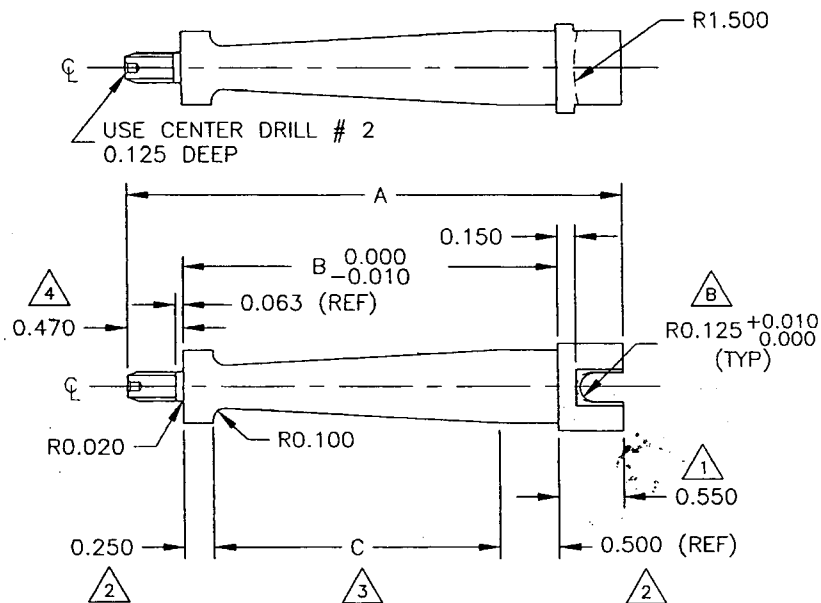
### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
5.040	+/-0.010	5.044	—			
4.020	+0.000/-0.010	4.017	—			
3.270	+/-0.010	3.270	—			
0.470	+/-0.010	0.473	—			
0.250	+/-0.010	0.249	—			
0.550	+/-0.010	0.550	—			
Ø0.750	+/-0.010	Ø0.750	—			
Ø0.625	+/-0.010	Ø0.625	—			
Ø0.363	+/-0.010	Ø0.364	—			
0.250	+0.010/-0.000	0.253	—			
0.625	+/-0.010	0.626	—			
0.150	+/-0.010	0.144				
? 0.250	+0.010/-0.000					
? 0.625	+/-0.010					
? 0.150	+/-0.010					
1/4-28 Major dia	0.243 - 0.249	0.248	—			
MOW	0.261 - 0.267	0.265	—			

<b>Measured by:</b> <i>[Signature]</i>	<b>Audited by:</b> <i>[Signature]</i>	<b>Prototype Approval:</b>	N/A
<b>Date:</b> 07/02/14	<b>Date:</b> 07.02.16	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	04.02.25	New Issue P/O D2968-041	KJ/RF	
B	05.05.26	Dimensions added	KJ/JLM	<i>[Signature]</i>



PART NUMBER	A	B	C
D2968-1	5.040	4.020	3.270
D2968-3	4.200	3.180	2.430

D2968-1/-3 STEM

D2968-1 AND D2968-3 STEM:

MATERIAL: AISI 4130

△  $\varnothing 0.750$  O.D.

△  $\varnothing 0.625$  O.D.

△ MACHINE UNIFORM TAPER FROM  $\varnothing 0.363$  O.D. TO  $\varnothing 0.625$  O.D.

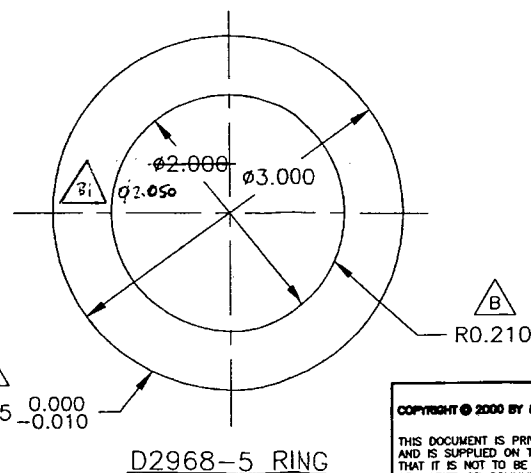
△ 1/4-28 UNF THREAD WITH 0.063 GRIP MACHINE ALL INSIDE EDGES WITH A 0.010 RADIUS UNLESS OTHERWISE INDICATED

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

D2968-5 RING:

MATERIAL AISI 4130

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



RELEASED

UNDER REVIEW

USE 2968-1 STEM FOR -041  
USE 2968-3 STEM FOR -043

D2968-041 AND D2968-043 TOW RING:

WELD PER QSI 004 ON ALL EDGES BETWEEN STEM AND RING  
HEAT TREAT TO MIN ULTIMATE TENSILE STRENGTH OF 125 KSI

FINISH: CAD PLATE ENTIRE ASSEMBLY PER

QQ-P-416F CLASS I TYPE II

POWDER COAT WHITE (REF 4.3.5.2) PER DART

QSI 005 4.3 (EXCEPT THREADS)

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

B	00.05.31	R0.125 AND R0.210 WERE 0.060 x 45°
A	00.03.07	NEW ISSUE
DESIGN	<i>[Signature]</i>	<b>DART</b> DART AEROSPACE LTD. HAMMERSBURY, ONTARIO, CANADA
CHECKED	<i>[Signature]</i>	DRAWING NO. D2968
DATE	00.05.31	TITLE TOW RING

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WORK ORDER  
NO. 30302

0002-141 2000 2000-10 18

REV. B  
SHEET 1 OF 1  
SCALE 1:1